



HAMMARLUND

MANUFACTURING COMPANY

73-88 HAMMARLUND DRIVE, MARS HILL, NORTH CAROLINA 28754

CABLE SUPERPRO - NEW YORK



THANK YOU!.....Your interest in Hammarlund Products is greatly appreciated. The descriptive information you have requested is enclosed. We hope this will answer most of your questions. If not, please do not hesitate to contact this office at any time for additional information on this, or any other quality products of Hammarlund Manufacturing Company. You may be quite certain that your request will receive our prompt attention.

Best Regards,

Mrs. Claudia Reavis

HAMMARLUND MANUFACTURING COMPANY



HAMMARLUND CAPACITORS

THIS CATALOG LISTS 88 TYPES OF STANDARD VARIABLE AIR CAPACITORS STOCKED BY MORE THAN 400 AUTHORIZED HAMMARLUND DISTRIBUTORS THROUGHOUT THE UNITED STATES AND CANADA. HAMMARLUND VARIABLE AIR CAPACITORS ARE RECOGNIZED AS THE STANDARD OF PROFESSIONAL COMPARISON BY ENGINEERS, EXPERIMENTERS, AND AMATEURS THROUGHOUT THE WORLD. HAMMARLUND MANUFACTURING COMPANY, 73 - 88 HAMMARLUND DRIVE, MARS HILL, NORTH CAROLINA, U. S. A. 28754. A GIANNINI SCIENTIFIC COMPANY.

HAMMARLUND CAPACITORS

This catalog lists 88 types of standard variable air capacitors stocked by more than 400 authorized Hammarlund Distributors throughout the United States and Canada. Hammarlund variable air capacitors are recognized as the standard of professional comparison by engineers, experimenters and amateurs throughout the world.

GENERAL CHARACTERISTICS — featured in all Hammarlund capacitors include: rotor and stator plates of brass stock soldered, not staked, to their supports to permanently insure perfect contact and prevent loosening of plates; stator supports soldered into eyelets assembled to the steatite insulators; terminals hot-tinned for ease in soldering; insulators of low-loss steatite, impregnated with DC 200 silicone fluid to prevent absorption of moisture; rotor and stator assemblies (except the silver-plated "VU") nickel plated to minimize corrosion; and rotor contact springs of beryllium copper or phosphor bronze, and nickel or silver plating. Precision soldering fixtures and assembly jigs are used during fabrication to assure uniformity of plate spacing.

All capacity values and dimensions in this catalog are nominal, subject to normal commercial tolerances. Capacity values are given in picofarads.

THE HAMMARLUND APC CAPACITOR SERIES

Millions of these high quality capacitors are in use in a wide variety of amateur, commercial and military equipment. First introduced by Hammarlund more than 30 years ago, they have become the standard miniature variable air capacitor in the electronics industry.

APC capacitors are available in three basic groups. The original APC group is furnished with a hex collar on a slotted shaft as indicated in the drawing. The APC-"B" group is furnished with 1/4" diameter shafts to permit adjustment of the capacitance with a front panel knob. The APC-"C" group is supplied with slotted shafts for variation of the capacitance and a 5/16" hex locknut to prevent movement of the rotor in equipment subjected to high levels of vibration or shock.

FEATURES — Silicone treated steatite bases are employed to assure dimensional stability and high Q. The brass rotor and stator plates are soldered to the brass rotor shaft and stator rods respectively. This technique is recognized as the most reliable method of capacitor plate assembly.

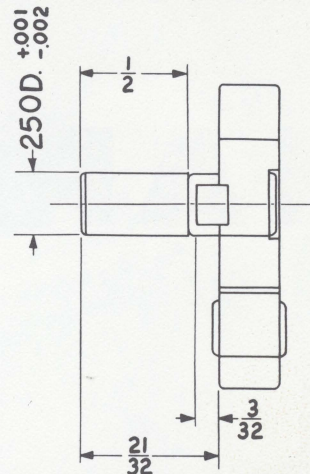
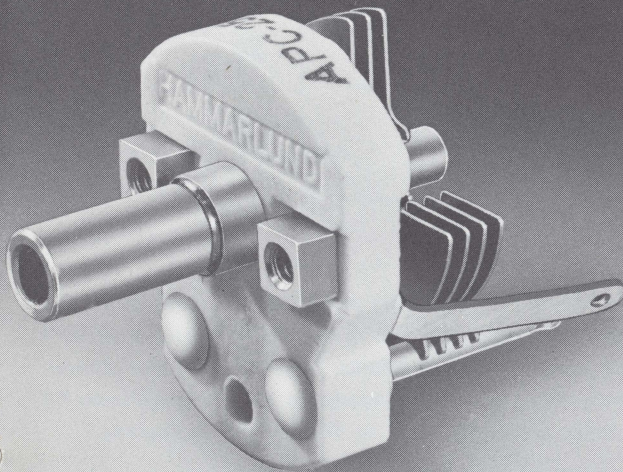
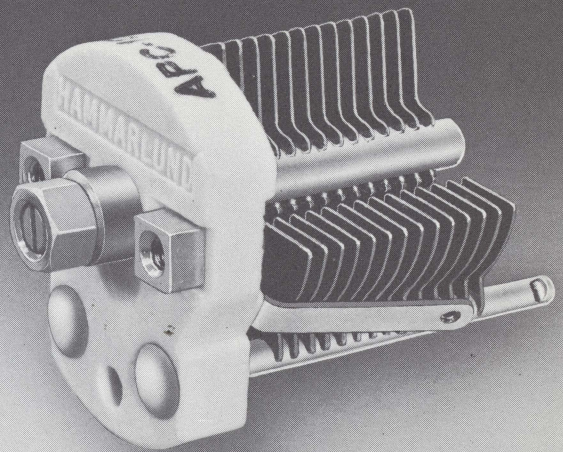
The phosphor bronze wiper assures positive contact with the rotor. All metal parts are nickel plated. The tapped brass mounting studs permit mounting of the capacitor without grounding the rotor.

The nominal air gap is 0.015". The APC capacitors are tested at 848 volts peak, 60 cycles.

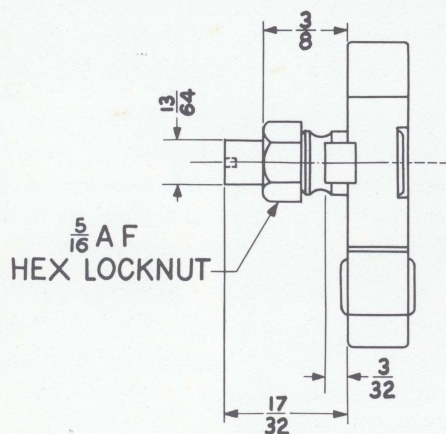
The capacitance and dimensional data shown in the table below are applicable to all three groups of APC capacitors.

TYPE	CAPACITANCE		PLATES	DIMENSION "A"
	Max.	Min.		
APC-25	25.	3.0	7	21/64
APC-50	50.	3.9	14	1/2
APC-75	75.	4.6	20	11/16
APC-100	100.	5.5	27	59/64
APC-140	140.	6.7	37	1-7/32

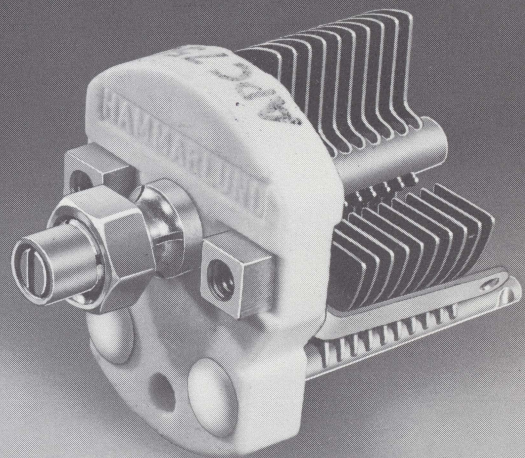
Note: When ordering the APC-"B" or "C" type, add the suffix -B or -C to the above listed type number.



"APC-B" SHAFT TYPE



"APC-C" LOCK TYPE



Capacitor Type	Net Price	Capacitor Type	Net Price
APC-25	\$ 1.20	APC-100-B	\$ 1.70
APC-50	1.35	APC-140-B	1.90
APC-75	1.45	APC-25-C	1.85
APC-100	1.60	APC-50-C	2.00
APC-140	1.80	APC-75-C	2.10
APC-25-B	1.30	APC-100-C	2.25
APC-50-B	1.40	APC-140-C	2.45
APC-75-B	1.50		



THE HAMMARLUND MAPC CAPACITOR SERIES

The MAPC series of capacitors was designed to satisfy the demand for a series of capacitors smaller in size, lighter in weight and lower minimum capacitance and inductance than the APC series provides. The lower values of minimum capacitance and inductance make the MAPC series particularly useful in VHF and UHF applications.

FEATURES — The MAPC series is similar to the APC series of capacitors in that identical materials and assembly methods are employed. The silicone treated steatite bases and all brass nickel plated metal parts with exception of the phosphor bronze rotor wiper assure the same type of reliable performance that the APC series provides.

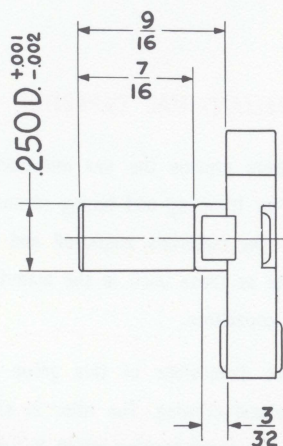
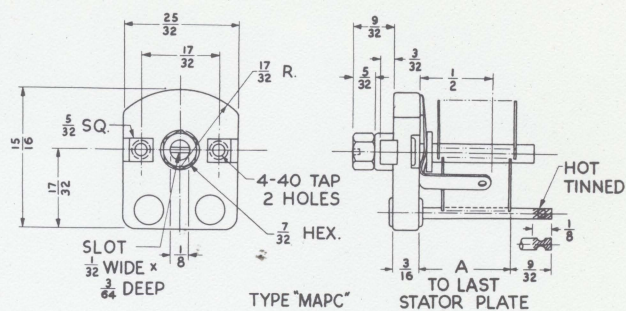
The MAPC series is provided with a hex collar on a slotted shaft for adjustment of the rotor position. The MAPC-"B" series is furnished with an extended shaft 7-1/6" long, 1/4" diameter for front of panel knob control. The MAPC-"C" series is supplied with a slotted shaft for screwdriver adjustment of the rotor position and a 9/32 hex type lock nut.

The MAPC series of capacitors has a straight line capacity characteristic. The air gap is 0.0135" nominal. The MAPC capacitors are tested at 848 volts peak, 60 cycles.

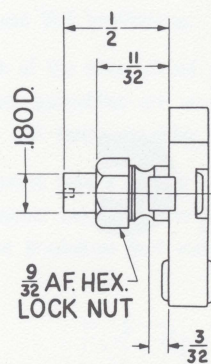
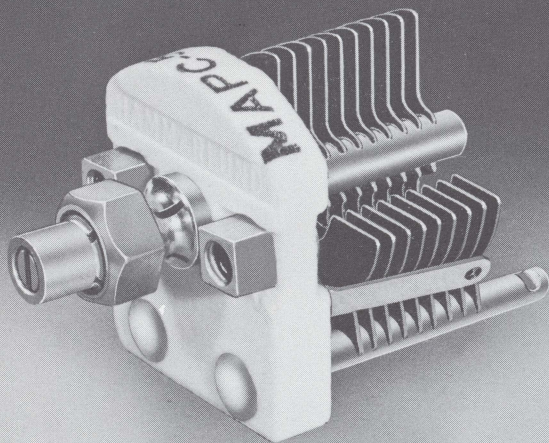
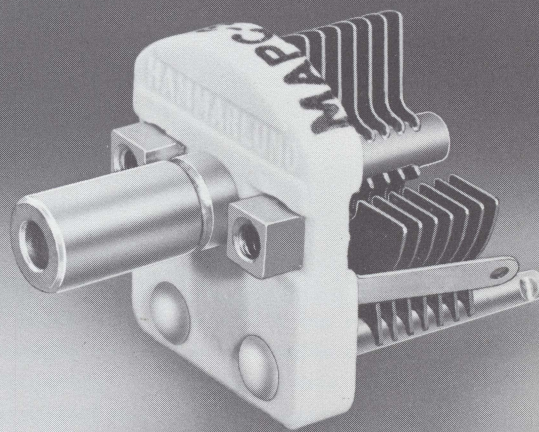
The data shown in the table below are applicable to all three groups of MAPC capacitors.

TYPE	CAPACITANCE		PLATES	DIMENSION "A"
	Max.	Min.		
MAPC-15	15	2.3	6	17/64
MAPC-25	25	2.6	10	3/8
MAPC-35	35	2.9	14	15/32
MAPC-50	50	3.2	19	37/64
MAPC-75	75	3.9	29	53/64
MAPC-100	100	4.5	38	1-5/64

Note: When ordering the MAPC-"B" or "C" type, add the suffix -B or -C to the type numbers listed above.



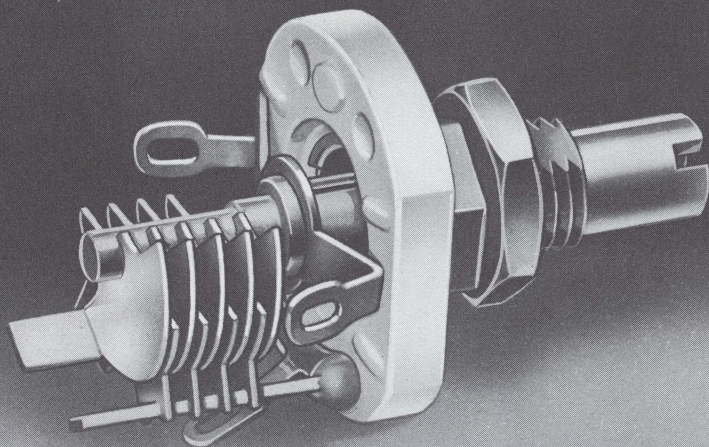
"MAPC-B" SHAFT TYPE



"MAPC-C" LOCK TYPE

HAMMARLUND MAPC PRICES

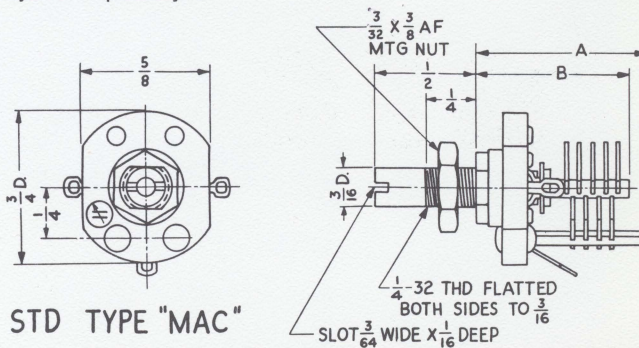
Capacitor Type	Net Price	Capacitor Type	Net Price
MAPC-15	\$ 1.00	MAPC-50-B	\$ 1.15
MAPC-25	1.05	MAPC-75-B	1.20
MAPC-35	1.10	MAPC-100-B	1.30
MAPC-50	1.15	MAPC-15-C	1.35
MAPC-75	1.20	MAPC-25-C	1.40
MAPC-100	1.30	MAPC-35-C	1.45
MAPC-15-B	1.00	MAPC-50-C	1.50
MAPC-25-B	1.05	MAPC-75-C	1.55
MAPC-35-B	1.10	MAPC-100-C	1.70



THE HAMMARLUND MAC CAPACITOR SERIES

The MAC capacitors provide the low minimum capacitance and inductance essential for trimming and tuning resonant circuits in the VHF and UHF range. The materials employed and the constructional methods are the same as those used in the manufacture of the APC and MAPC series of capacitors.

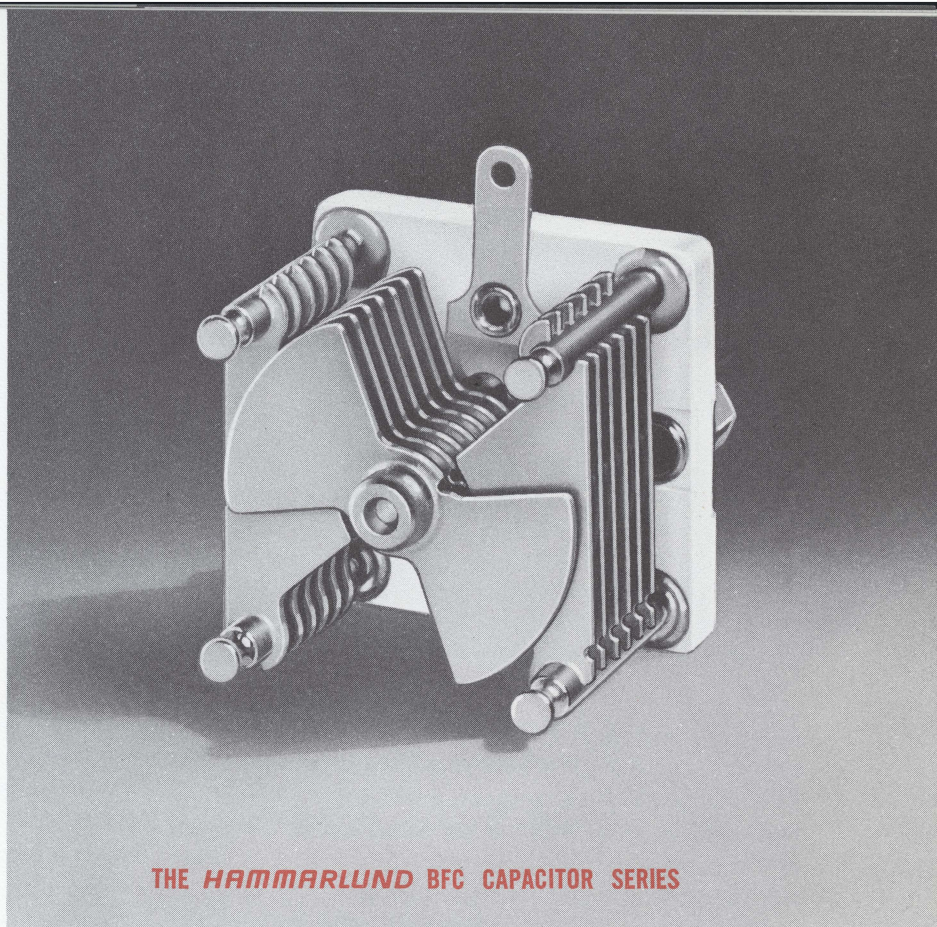
The sub-miniature dimensions of this group of capacitors are shown in the dimensional drawing. The rotor is effectively grounded by the use of a metallic panel bushing which is provided with flatted sides to prevent rotation of the capacitor body. The MAC's have a straight line capacitance characteristic. The nominal air gap is 0.017" with exception of the MAC-30 which has an air gap of 0.0135". These capacitors are tested at 1240 volts peak and 848 volts peak, 60 cycles respectively.



TYPE	CAPACITANCE		PLATES	DIMENSIONS	
	Max.	Min.		"A"	"B"
MAC-5	5.4	1.3	5	45/64	39/64
MAC-10	9.6	1.5	9	13/16	23/32
MAC-15	15.8	1.9	15	1	29/32
MAC-20	21.5	2.2	21	1-11/64	1-5/64
MAC-30	32.0	2.5	27	1-17/64	1-11/64

HAMMARLUND MAC PRICES

Cap. Type	Net Price	Cap. Type	Net Price
MAC-5	\$.90	MAC-20	\$ 1.10
MAC-10	.95	MAC-30	1.20
MAC-15	1.00		



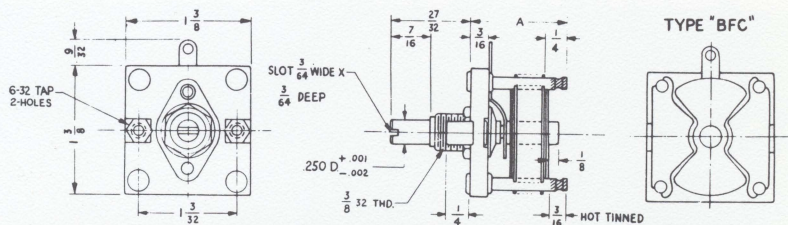
THE HAMMARLUND BFC CAPACITOR SERIES

The BFC capacitors are of the butterfly type permitting operation as a series capacitor without a rotor connection or as a split stator capacitor with provision for grounding the rotor independently from the capacitor mounting studs, which are insulated from the rotor in the silicone treated steatite base.

As the table indicates, the minimum capacitance in both the series and split stator modes of connection is very low. This is particularly desirable in VHF and UHF applications.

With exception of the silver plated phosphor bronze rotor wiper, the rotor and stator assemblies are made of brass, which is nickel plated after rotor and stator assembly soldering operations.

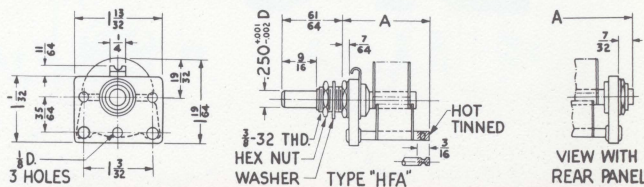
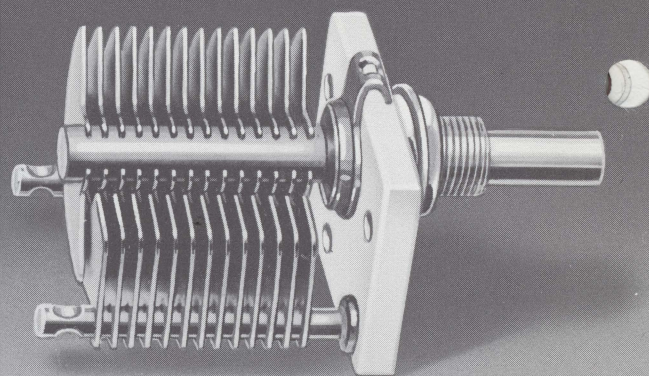
The BFC capacitors have a straight line capacitance characteristic through their rotational range of 0 to 90 degrees. The nominal air gap is 0.030". The breakdown test voltage is 1690 volts peak, 60 cycles.

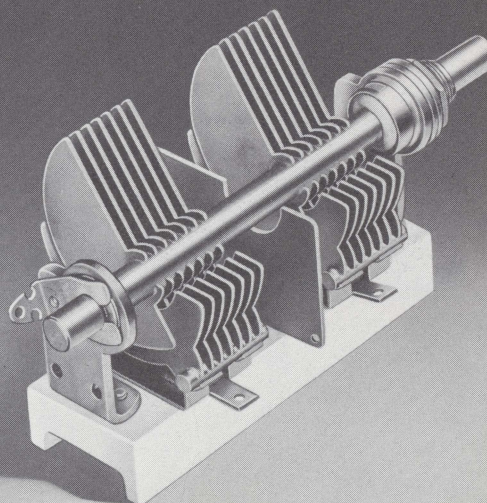


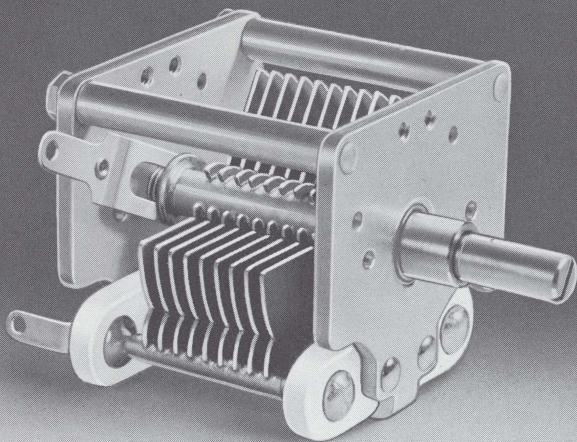
CODE	CAPACITY/SECTION		SERIES CAPACITY		PLATES		DIMENSION "A"
	Max.	Min.	Max.	Min.	Rotor	Ea. Stator	
BFC-12	14.5	3.4	7.6	2.2	4	3	29/32
BFC-25	27.3	4.8	14.1	2.9	7	6	1-13/64
BFC-38	40.1	6.2	20.6	3.6	10	9	1-1/2

HAMMARLUND BFC PRICES

Cap. Type	Net Price	Cap. Type	Net Price
BFC-12	\$ 2.25	BFC-38	\$ 2.95
BFC-25	2.65		





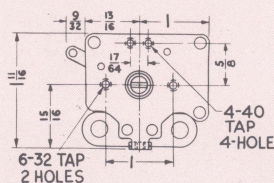


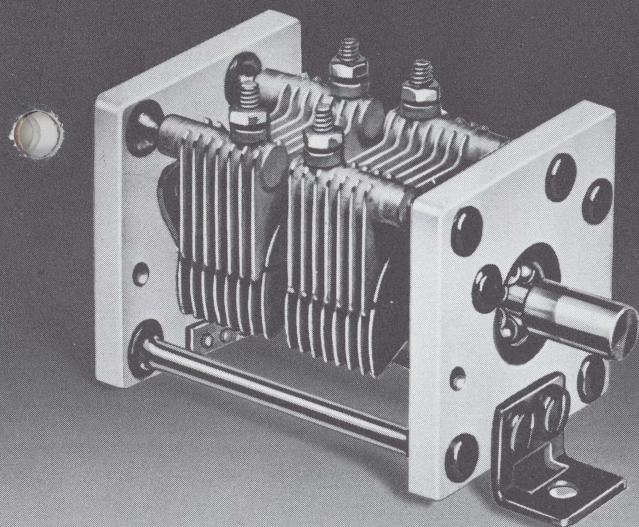
RMC

THE HAMMARLUND RMC CAPACITOR SERIES

The RMC was designed specifically for applications requiring an MC type tuning capacitor with very rigid construction. Its sturdy frame consists of heavy gauge aluminum end panels held together by three aluminum tie rods. It has a brass sleeve front bearing and a single ball thrust rear bearing for smooth tuning and a high degree of resetability. The rotor contact is a forked silver plated phosphor bronze spring wiping against a wide disc on the rotor. The plate shape and other constructional features are the same as on the MC. Tapped holes in front panel and in mounting feet, as well as additional brackets for inverted mounting permit a wide variety of assembly methods.

SPECIFICATIONS — Straight line capacity. The air gap is 0.0245" nominal. Test voltage 1414 volts peak, 60 cycles.





THE HAMMARLUND VU CAPACITOR SERIES

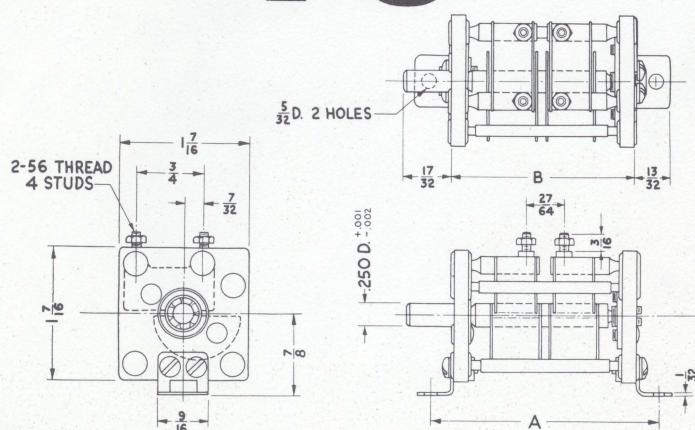
The VU is a uniquely designed UHF tuning capacitor using completely original concepts. With it, conventional **lumped constant** circuits, rather than tuned cavity techniques, can be efficiently used up to 500 megacycles. In addition to employing the capacitor sections in series to eliminate the rotor wiper, the design also utilizes Pyrex balls to form precision bearings and to completely isolate the rotor. Thus, noise generated by rubbing metal-to-metal contacts and variable resistance paths in the bearings have been totally eliminated. Circuit connections are made to threaded studs on each stator. This permits vacuum tube and inductor to be mounted adjacent to and on opposite sides of the capacitor to minimize circuit inductance. The symmetrical design is ideal for tuned circuits operating up to 500 megacycles.

Rotors and stators are of brass with plates soldered in precisely located grooves and then silver plated to increase the Q of the capacitor. The insulation is silicone treated steatite. All lengthwise frame members are of brass to minimize temperature effects. Base mounting brackets are provided.

SPECIFICATIONS — The capacity characteristic approaches a straight line frequency curve as indicated by nominal values in the table. The air gap is .0168" nominal. The VU capacitors are tested at 990 volts peak, 60 cycles, between rotor and each stator.

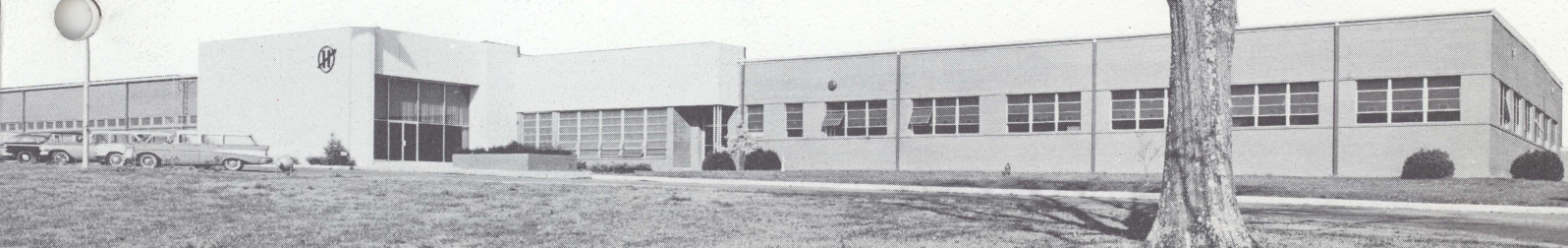
CODE	SERIES CAPACITY		PLATES/SECTION	DIMENSIONS	
	Eff.	Min.		"A"	"B"
VU-20	22.5	3.35	11	2-9/32	1-25/32
VU-30	31.5	3.5	15	2-9/16	2-1/16
VU-45	45.0	3.8	21	2-31/32	2-15/32

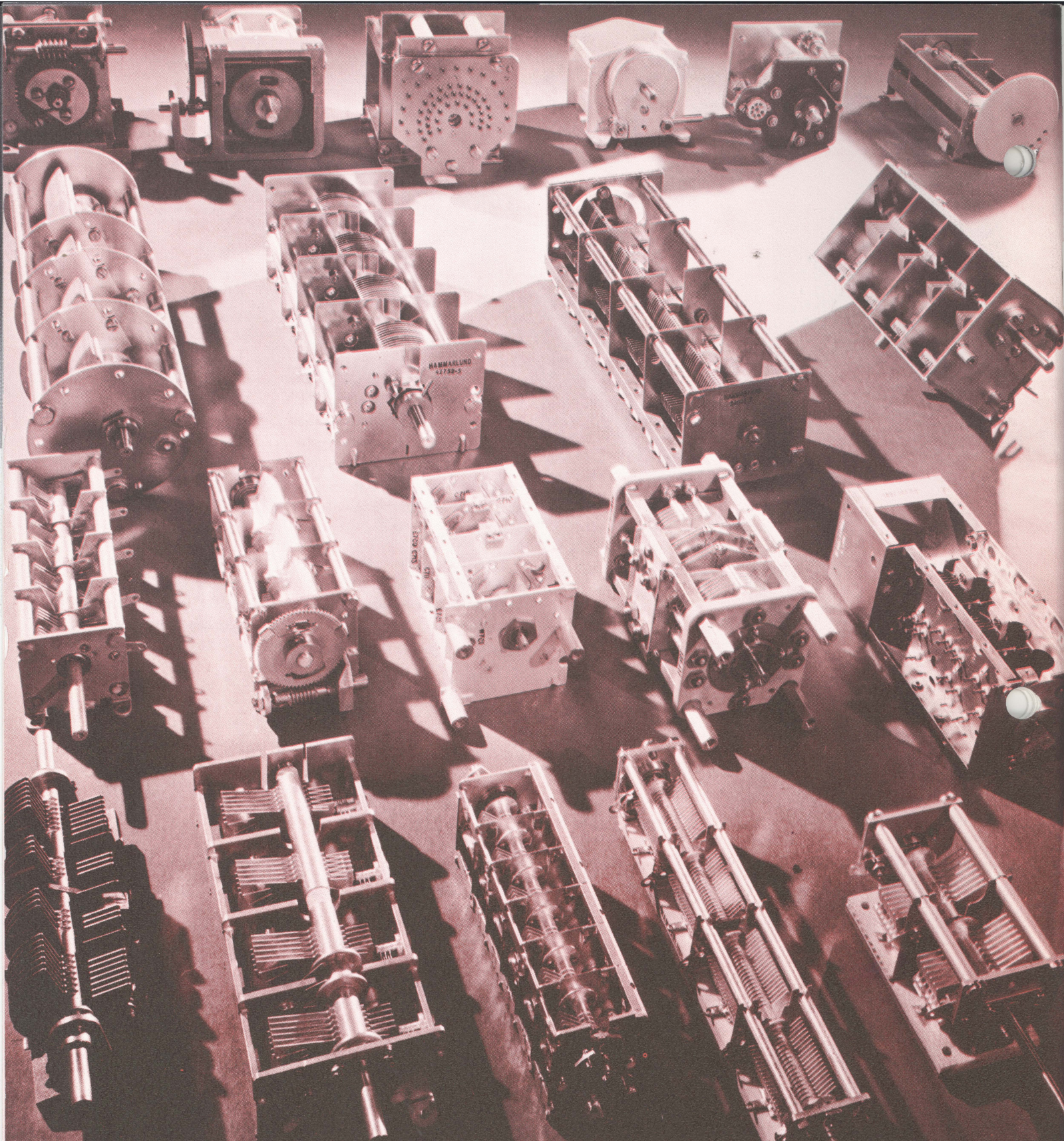
DIAL % ROTATION	EFFECTIVE SERIES CAPACITY		
	VU-20	VU-30	VU-45
0	0.	0.	0.
10	.55	.8	1.15
20	1.55	2.2	3.15
30	2.75	3.85	5.45
40	4.2	5.85	8.35
50	6.0	8.4	12.0
60	8.35	11.65	16.65
70	11.2	15.7	22.4
80	14.65	20.55	29.35
90	18.6	26.05	37.2
100	22.5	31.5	45.0



HAMMARLUND VU PRICES

Capacitor Type	Net Price	Capacitor Type	Net Price
VU-20	\$ 7.10	VU-45	\$ 8.00
VU-30	7.50		





ATTENTION OEM EQUIPMENT DESIGNERS:

The standard capacitors listed in this catalog illustrate a small fraction of Hammarlund's capability in the design and manufacture of variable air capacitors ☐ The special capacitors shown above illustrate, in part, our ability to satisfy the most exacting requirements of equipment designers ☐ You can draw upon Hammarlund's more than 50 years of experience in variable air capacitor design in many ways ☐ First, hundreds of modified designs of the standard capacitors are available to satisfy special requirements ☐ Second, many designs of specialized nature can be used or modified to satisfy your needs ☐ Third, prototype design service for highly specialized applications followed by production of type approved units can be initiated by submission of your requirements to us ☐ Fourth, to satisfy your need for electrical and physical data on our variable air capacitors we have started a **Variable Air Capacitor Design Handbook for Equipment Designers** ☐ This handbook consists of a compilation of loose leaf design data sheets which will be kept current on a continuing basis ☐ Copies will be made available to equipment designers upon request on company letterhead ☐ Write HAMMARLUND MANUFACTURING COMPANY, 73-88 HAMMARLUND DRIVE, MARS HILL, NORTH CAROLINA, U. S. A. 28754 ☐